

Installation for the interactive management of a  
sportsperson's running time

- 5 The present invention pertains to an installation for the interactive management of a running time of at least one sportsperson between a start point and a finish point.
- 10 Installations specifically set up during sporting trials in order to clock the running time of sportspersons along a run are customarily encountered. After finishing, the sportspersons can only remotely interrogate the time that they have achieved. They 15 cannot for example repeat the same run a few days later and reascertain the running time in order to discover whether they have modified their performance.
- Consequently, it is not possible, for a sportsperson, 20 to automatically ascertain their performance along a run done when they so desire.

The aim of the present invention is in particular to provide a novel installation for the management of a 25 running time which allows a sportsperson to run a course when he so desires and to automatically ascertain the time thereof remotely.

For this purpose, according to the invention, an 30 installation for the interactive management of a running time of at least one sportsperson between a start point and a finish point is essentially characterized in that it comprises:

- clocking means which are activated during the 35 passage of the sportsperson, and which provide signals representative of the times of passage along the run;
- means of modulation/demodulation of the signals provided by the clocking means;

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- data acquisition, management and storage means which are connected to the modulation/demodulation means by a network and which comprise at least means for storing the running times of the sportsperson; and

5 - terminal means connected as an Internet type network to the data acquisition, management and storage means, and which are intended to allow the sportsperson to ascertain his running times remotely.

10 In a preferred manner, the data acquisition, management and storage means comprise means for comparing the running times of the sportsperson so as to allow physical advancement of said sportsperson.

15 Advantageously, the data acquisition, management and storage means comprise means for calculating the average running speed.

Again advantageously, the data acquisition, management  
20 and storage means comprise means for evaluating the running times of the sportsperson with respect to at least one physical training programme selected by the sportsperson. A sportsperson is thus able, by means of this installation, to automatically ascertain his  
25 performance as a function of a physical programme that he has devised in order to reach a given level.

In a preferred manner, the data acquisition, management and storage means comprise means for storing and  
30 recognizing a code to be provided by the sportsperson for the remote interrogation of said means. Each user of the installation therefore ascertains for example only the performances that he has achieved, without ascertaining those of the other sportspersons.

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Again advantageously, the code is stored for a duration determined by the data acquisition, management and storage means. The installation is thus rendered

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accessible for a period of time to be defined as a function of criteria such as a subscription or a toll system.

5 Preferably, the installation furthermore comprises at least one panel for immediate display of the running times which is situated in proximity to the finish point. The sportsperson can thus immediately ascertain on site his intermediate times and/or his running time.

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Preferably, the clocking means comprise:

- at least one identification resonating antenna which is intended to be worn by the sportsperson;

15 15 means of detection of the passage of the resonating antenna in proximity to the start point and which transmit a start signal to the data acquisition, management and storage means;

20 20 - at least one first emission/reception beacon situated in proximity to the finish point and which generates an electromagnetic energy at a predetermined frequency, the resonating antenna modulating this frequency according to a modulation specific to it during the passage of this antenna in proximity to the finish point; and

25 - means of reading of the frequency modulated by the antenna, and which transmit a finish signal to the data acquisition, management and storage means.

30 30 In a preferred manner, at least one second emission/reception beacon is placed at at least one intermediate point of the sportsperson's run and the data acquisition, management and storage means provide intermediate times of passage and/or intermediate average speeds.

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Again in a preferred manner, the identification resonating antenna intended to be worn by the sportsperson is detectable for a determined duration.

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Other characteristics and advantages of the invention will become apparent during the following description of one of its embodiments, given by way of nonlimiting example, in conjunction with the appended drawings, in  
5 which:

- figure 1 is a basic diagram of the installation according to the present invention;
  - figure 2 is a diagrammatic view of the  
10 installation set up along a sporting run; and
  - figure 3 is a perspective view of a part of the clocking means of the installation represented in figures 1 and 2.
- 15 The installation 1 for the interactive management of a running time of at least one sportsperson between a start point and a finish point, represented diagrammatically in figure 1, comprises clocking means 2 which are activated during the passage of this  
20 sportsperson, and which provide signals representative of the times of passage along this run, means of modulation/demodulation 3 of the signals provided by the clocking means 2, data acquisition, management and storage means 4 which are connected to the  
25 modulation/demodulation means 3 by a network, these means comprising at least means for storing the running times of the sportsperson, and terminal means 5 connected as an Internet type network to the data acquisition, management and storage means 4, and which  
30 are intended to allow the sportsperson to ascertain his running times remotely.

The clocking means 2 will more particularly be described hereinbelow by way of nonlimiting example  
35 with reference to figures 2 and 3.

The modulation/demodulation means 3 are connected to the acquisition, management and storage means 4 in a

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conventional manner by the telephone network in such a way as to instantaneously transmit the clocking signals provided by the clocking means 2, to the data acquisition, management and storage means 4 so as to  
5 allow the processing of the times of passage of each of the sportspersons running the sports course.

The data acquisition, management and storage means 4 consist essentially of a central computer which may be  
10 linked as an Internet type network to the terminal means 5 which take the form of computers of smaller capacity and which are for example situated at the home of each of the sportspersons so that they can remotely consult their results. Each sportsperson may thus  
15 evaluate themselves with respect to the others and ascertain their performance level with respect to the other performances already achieved over the same run in the preceding days or the preceding months.  
  
20 The acquisition, management and storage means 4 comprise for example means of comparison so that the sportsperson may ascertain the progress of his performance over the clocking run. These means also comprise means for calculating the average speed of  
25 running by the sportsperson.

In a preferred form of the invention, the data acquisition, management and storage means 4 comprise means for evaluating the running times of the  
30 sportsperson with respect to at least one physical training programme selected by the sportsperson so that the latter may establish a physical training programme with the aim of reaching a certain sporting level at a given moment. The installation is thus interactive  
35 since it allows the sportsperson to be permanently aware of his physical condition with respect to a reference that he has chosen himself. As a function of the performances achieved, the installation advises for

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example the sportsperson in his/her progress by providing him/her with the type or types of exercises that they should do.

5 Furthermore, so that each of the sportspersons may progress without the other sportspersons being au fait with the sporting condition at a given date, the acquisition, management and storage means 4 may comprise means for storing and recognizing a code or  
10 key that the sportsperson must specify in order to remotely interrogate the means 4.

This key may also have a duration of validity of a few days or a few months so that this installation is a  
15 toll installation. The key is for example no longer valid if the sportsperson has not renewed his subscription.

Of course, access to the installation may be free. No  
20 code is then necessary.

The acquisition, management and storage means 4 may also be connected to means for measuring the pulses of the sportspersons or to pedometers.

25 The run managed by the installation 1 may be a loop whose start point A and finish point B are the same, as is represented in figure 2, or else a course between two distinct points.

30 The clocking means installed along the run may take various forms. They may be bar code systems or digicode systems which the sportspersons must provide with a code on each passage. Any other clocking system may be  
35 used, the principle being that each runner may be identified individually from a large number of others. The clocking means may be activated automatically or manually.

These clocking means use the principle of radiofrequency type identification in which the identification resonating antenna 10, also referred to  
5 as an electronic tag, consists of at least one magnetic loop. The means of detection 11 consist of a facility situated in proximity to the start point A and detect the passage of the resonating antenna 10 worn by the sportsperson; they transmit a start signal to the data  
10 acquisition, management and storage means 4.

The emission/reception beacon 12 is situated in proximity to the finish point B and generates an electromagnetic energy at a predetermined frequency. In  
15 practice, this frequency is of the order of 13 650 MHz. The resonating antenna 10 modulates this frequency according to a modulation specific to it. This frequency is read by the reading means 13 which then transmit a finish signal to the acquisition, management  
20 and storage means 4.

The emission/reception beacon 12 takes for example the form of a gantry that must be proofed against inclement weather and vandalism. This gantry may be dismountable  
25 or placed in a fixed manner over the run. In order to obtain intermediate passage times, other gantries 14 and 15 identical to the gantry 12 are placed along the run.

30 The resonating antenna 10, intended to be worn by the sportsperson, may be disposable or recoverable and take the form of a tag operating for a determined time or a determined number of passages.

35 Thus, by virtue of this installation, the sportsperson can do the run when he so wishes since he himself triggers the activation and the stopping of the clock, and consult his results remotely. His results are

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integrated into a physical training programme that he himself has chosen in order to progress interactively. This installation may be set up for any type of run, in respect of sports such as those of mountain biking,  
5 cycling, roller skating, cross-country skiing, snowboarding or else road running.

The sportsperson can also immediately consult his running time on site by virtue of a display panel 16 placed in proximity to the finish point B. He may likewise ascertain his intermediate times on intermediate display panels located in proximity to the gantries 14 and 15.  
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15 This installation is thus, as it were, a self-service clocking system over a permanent clocking run.

Of course, the installation according to the invention is not limited to the preferential embodiment described  
20 above by way of example; on the contrary, it embraces all variant embodiments within the scope of the claims hereinbelow.